Docket No.: AGIL -27,349
10010107-1
(PATENT)

AMENDMENTS TO THE CLAIMS

1   1. (Currently Amended) A serial communications link comprising:

2   a scrambler device for receiving a source encoded data bit stream, the scrambler device

3   scrambles the data bit stream on a group-wise basis to produce scrambled groups of data in the

4   data bit stream to statistically balance the number of logic low and logic high bits in the groups

5   of data; and

6   an ECC encoder device that receives the scrambled groups of data from the scrambler

7   device and converts said scrambled groups of data into ECC-encoded data.

1   2. (Original) The system as recited in Claim 1, further comprising:

2   a serializer for converting said ECC-encoded data into serialized data; wherein the ECC-

3   encoded data includes frame alignment information; and

4   the system further comprises a receiver for receiving said serialized data and converting

5   the serialized data into data frames based upon the frame alignment information.

1   3. (Previously Presented) The system as recited in Claim 2, wherein the receiver

2   comprises:

3   a frame-recoverer for converting said serialized data into data frames;

4   an ECC decoder for converting said data frames into ECC-decoded data and error

5   indications; and

6   a descrambler for converting said ECC-decoded data into de-scrambled data.

1   4. (Previously Presented) The system as recited in Claim 3, wherein said frame-

2   recoverer uses said error indications in converting said serialized data into data frames.

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1   5. (Currently Amended) The system as recited in Claim 1, wherein said ECC encoder

2   applies an error correction code in converting said scrambled groups of data into said ECC-

3   encoded data.

1   6. (Currently Amended) A serial communications method, comprising the steps of:

2   receiving a data bit stream, from an originating source, at a scrambler device, said data

3   bit stream comprising data bits and other bits;

4   converting, on a group-wise basis, said data bit stream into groups of scrambled data, by

5   said scrambler device, prior to performing another data function on said data bit stream, said

6   groups of scrambled data each comprising groups of data bits having a statistically balanced

7   number of logic low and logic high data bits in each group; and

8   converting said scrambled data into ECC-encoded data.

1   7. (Original) The method as recited in Claim 6, further comprising the steps of:

2   generating a serial stream of the ECC-encoded data; and

3   transmitting said serial stream.

1   8. (Original) The method of Claim 7, wherein:

2   the ECC-encoded data includes frame alignment information; and

3   the method further comprises receiving said serialized data and converting said serialized

4   data into data frames based upon said frame alignment information.

1   9. (Original) The method of Claim 7, further comprising:

2   receiving said serialized data;

3   converting said serialized data into data frames;

4   converting said data frames into ECC-decoded data and error indications; and

5   converting said ECC-decoded data into de-scrambled data.

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1   10. (Original) The method of Claim 9, wherein the step of converting the serialized data

2   comprises converting the serialized data into data frames based upon said error indications.

1   11. – 33. (Canceled)

1   34. (Currently Amended) A serial communication link comprising:

2   a scrambler device programed to convert, on a group-wise basis, a received bit stream

3   into groups of K scrambled data bits so as to statistically balance the number of logic low and

4   logic high bits in each group of K scrambled data bits, said received bit stream being without

5   redundant bits and ~~without~~ being substantially only source encoded prior to being scrambled ;

6   and

7   an ECC encoder programmed to convert said scrambled data into ECC-encoded data.

1   35. (Currently Amended) A serial communications link comprising:

2   a scrambler device for receiving a data bit stream ~~having~~ being substantially only data

3   source encoded ~~no previous encoding or byte reordering done to said data bit stream,~~ the

4   scrambler device scrambles the data bit stream on a group-wise basis into scrambled groups of

5   data ~~in the data bit stream and converts said data bit stream into scrambled groups of data;~~ and

6   an ECC encoder device that receives the scrambled groups of data from the scrambler

7   device and converts said scrambled groups of data into ECC-encoded data.

1   36. (Currently Amended) A serial communications method, comprising the steps of:

2   receiving a data bit stream at a scrambler device, said data bit stream comprising data bits

3   and other bits resulting from data source encoding ~~that have not been previously encoded or byte~~

4   ~~reordered;~~

5   converting, on a group-wise basis, said data bit stream into grouped scrambled data, by

6   said scrambler device, prior to performing another data function on said data bit stream; and

7   converting said scrambled data into ECC-encoded data.

1   37. (Currently Amended) A serial communication link comprising:

2   a scrambler device programed to convert, on a group-wise basis, a source encoded data

3   an unencoded received bit stream[[,]] into grouped scrambled data; and

4   an ECC encoder programmed to convert said scrambled data into ECC-encoded data.

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